2013

COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE

COVERAGE MONITORING NETWORK

Mopti region, MALI

28 Oct – 8 Nov 2013

JESSICA BOURDAIRE

ACKNOWLEDGEMENTS

Save the Children would like to say thank you to all people who contributed to the success of the SQUEAC investigation.

- To the MoH who gave its authorisation to carry out the SQUEAC investigation
- To ECHO who supports the program and has financed this investigation
- To CMN who kindly gave support through the presence of its technical advisor Andrew Prentice
- To Save the Children Mali through the presence of its nutrition advisor Patrick Shabani and its MEAL officer Oumar Kassambara
- To Mopti team for its support throughout the investigation
- And, specially, to the entire investigation team who took ownership and made possible the success of this investigation

THANKS to you all for making this happen.

ACRONYMS

ACTED: Agence d'Aide à la Coopération Technique et au Développement
ALS: Average Length of Stay
ANC: Ante-Natal Care
ARTI: Acute Respiratory Tract Infection
AWG: Average Weight Gain
BBQ: Barriers, Boosters and Questions
CHW: Community Health Workers
CMAM: Community Based Management of Acute Malnutrition
CMN: Coverage Monitoring Network
ECHO: European Commission Humanitarian Office
EPI: Expanded Program on Immunization
FANTA: Food and Nutrition Technical Assistance
FP: Family Planning
GAM: Global Acute Malnutrition
IYCF: Infant and Young Child Feeding
MAM: Moderate Acute Malnutrition
MEAL: Monitoring, Evaluation, Accountability and Learning
MoH: Ministry of Health
MRP: Minimum Reporting Package
MSF: Médecins Sans Frontières
NNP: National Nutrition Policy
OCHA: Office for the Coordination of Humanitarian Affairs
OTP: Outpatient Therapeutic Program
RUTF: Ready to Use Therapeutic Food
SAM: Severe Acute Malnutrition
SC: Stabilization Centre
SFP: Supplementary Feeding Program
SMART: Standardized Monitoring and Assessment of Relief and Transitions
SQUEAC: Semi-Quantitative Evaluation of Access and Coverage
WHO: World Health Organization

EXECUTIVE SUMMARY

In March 2013, Save the Children started the CMAM project in Mopti. The project aimed to end in August 2013 but was extended until December 2013 after a revision in July. The total target went from 968 to 2029 after this revision. Currently, twelve health zones are carrying out CMAM activities with Save the Children support (thirteen OTPs and two SCs). The SQUEAC took place from the 28th of October to the 8th of November 2013.

The finding of the SQUEAC showed that inaccessibility (floods) was the most important barrier in accessing the OTPs. It mainly concerned three health zones (Ouromodi, Soye and Yougonsire). The rainy season followed by the floods affects these health zones from June to March making community mobilisation difficult and limiting access to health care. Another strong barrier identified was the lack of human resources in the OTP sites, this could lead to mothers having a negative opinion of the program, affecting new admissions and increasing the risk of defaulting. The absence of CHWs was also perceived as a strong barrier to coverage, active screening being a crucial part of the prevention and management of SAM. Poor community mobilisation directly affects coverage and increases the risk of defaulting. Lack of awareness of malnutrition was another strong barrier. Most of the mothers, but also some CHWs and even some health staff, linked malnutrition only to a lack of food. The lack of knowledge about direct and underlying causes of malnutrition increases the risk of stigmatisation and prevents early treatment seeking behaviour.

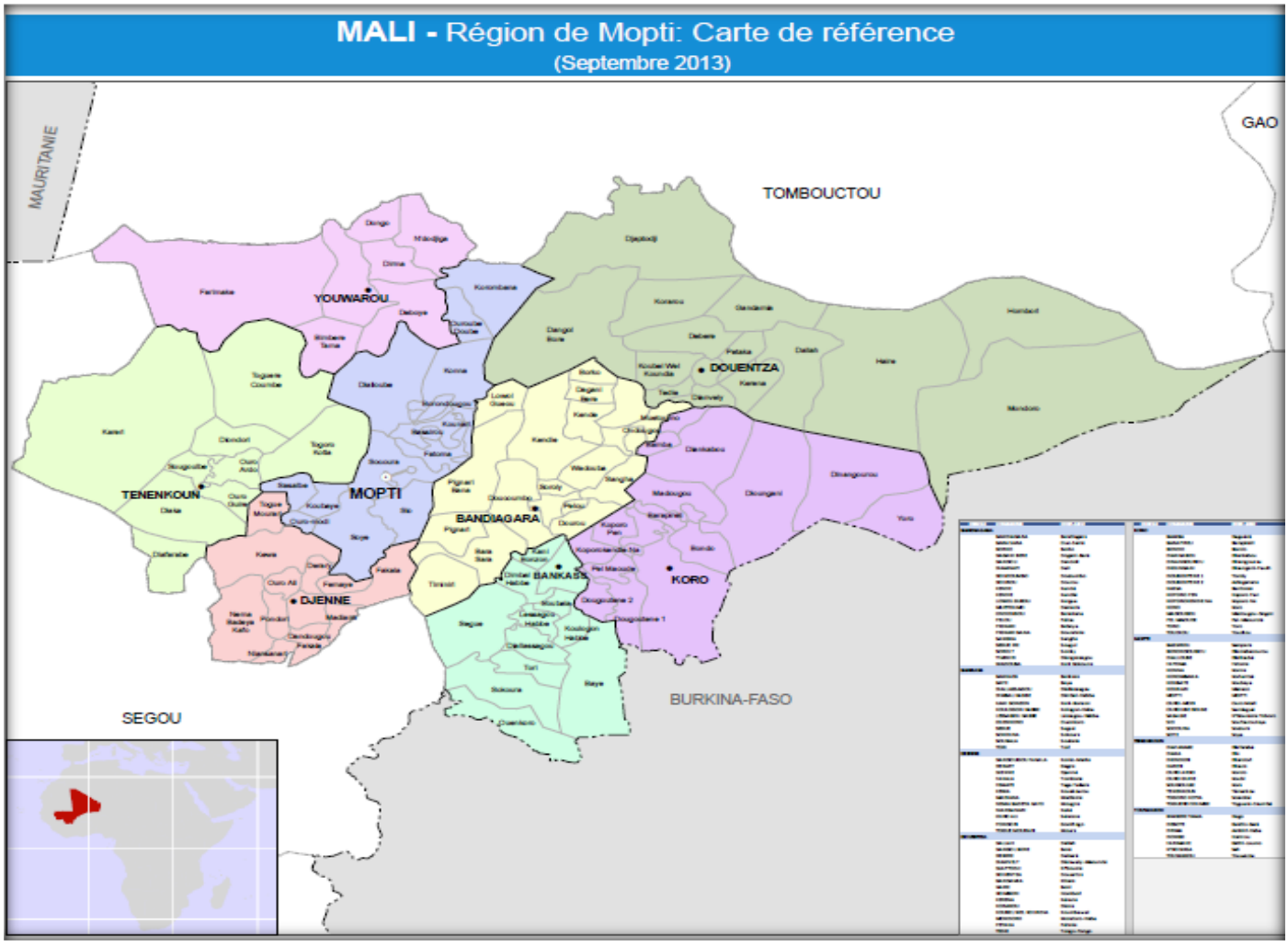
As coverage was found to be so spatially diverse only Stage 1 and 2 were performed during this first SQUEAC in Mopti. Indeed, coverage and performance nutrition indicators appeared to be very different from one place to another. Four health zones were chosen as most likely having high (Socoura and Somadougou) and low (Sevare III and Ouromodi) coverage. The teams' beliefs about coverage were confirmed during the small area survey except for Socoura that did not show high coverage as expected. This particular health zone is covered by two OTPs that are directly supported by Save the Children staff who ensure consultations take place in the OTP. Socoura heath zone has admitted more than three times its target population and has very good indicators, which explains the wrong assumption about good coverage. Having said that, the coverage in Socoura is better than the one found in Ouromodi and Sevare III (low coverage areas) but is not as good as the estimated coverage of Somadougou (high coverage area).

CONTENTS

1. INTRODUCTION

1.1. CONTEXT

Since 2012, Mali has been facing food and nutritional crisis alongside political and military upheaval (coup 2012). According to the Government and United Nations agencies 210,000 children were expected to be at risk of Severe Acute Malnutrition (OCHA, January 2013). Though all regions are affected, the situation is worse in northern Mali. In January 2013, fighting in the Mopti region has forced people into displacement. Mopti hosted the highest numbers of IDPs (39, 830) after Bamako (OCHA, December 2012). The majority of the IDPs in Mopti shelter with host families. The presence of IDPs represents an additional constraint for host families already weakened by the 2012 food crisis as well as by the disruption of basic services due to the fighting in the area. Costly healthcare leads to many families not receiving health care.



Map 1: Map of the Mopti region (OCHA, September 2013)

Since July 2012, MoH has developed a National Nutrition Policy (NNP), incorporating the assessment, treatment and prevention of malnutrition into the existing health system. However, the capacity of health services staff to assess nutritional status, identify malnourished individuals and implement curative actions for nutrition is limited.

The result of the September 2012 SMART survey has shown 8.6% of GAM and 2.9% of SAM. The preliminary results of the last SMART survey (July 2013) did show lower rates of GAM (6.5%) and SAM (1.1%) in Mopti region. Although the rates are below the WHO emergency threshold, the nutritional situation in Mopti needs to be considered along with the aggravating factors related to this population (IDP, latent conflicts, poor health system, food insecurity, floods, etc.), even though the security has improved in Mopti region.

Mopti health district accounts for 34 health zones from which only 24 are fully functional. Save the Children is currently intervening in twelve health zones (southern Mopti) that corresponds to a total population of 176,883 people. The NGO ACTED is supposed to cover the remaining twelve health zones of Northern Mopti. As of the date of the SQUEAC investigation, no activity has been implemented by this partner.

HEALTH ZONE	TOTAL POPULATION	TARGET	STARTING DATE	ZONE TYPE
Komoguel	28962	332	March	Semi urban
Medina Coura	9049	104	April	Semi urban
Ouromodi	5827	67	May	Rural
Sevare II	28409	326	April	Urban
Sevare III	18369	211	May	Urban
Socoura/Gavardo	15202	175	March	Semi urban
Somadougou	10673	122	March	Semi urban
Soufouroulaye	10151	116	May	Rural
Soye	18017	207	May	Rural
Toguel	17803	204	April	Urban
Tongorongo	7002	80	April	Rural
Yougonsire	7419	85	May	Rural

Table 1: Population and status of the 12 health zones of intervention of Mopti Region

1.2. CMAM PROGRAMS IN THE AREA

In order to reduce SAM among this fragile population, Save the Children took over the emergency nutrition activities initiated by MSFB in July 2012, with the aim of expanding the initial programme (three health zones) to include wider coverage of: Infant and Young Child Feeding (IYCF) activities, Essential Nutrition Actions and other Community-based Management of Acute Malnutrition (CMAM) activities. Since March 2013, through the Nutrition Program in Mopti, Save the Children supported by ECHO, has provided immediate assistance to urgent nutrition needs while strengthening the capacity of the healthcare system to assess, treat and prevent malnutrition.

The original project was supposed to last 6 month (March-August 2013) but it has been extended (July 2013 revision) until end of December 2013 as the project reported admitting more children than expected during the first half of the project. Indeed, 98% (724 OTP plus 222 SC) of the original target (968 SAM children) had been achieved during the first three months of the project (March-May 2013).

Currently, Save the Children is supporting twelve health zones in Mopti district. A total of thirteen OTPs and two SCs have been receiving support since the beginning of the project. The project covers 121 villages in the area of intervention. Up to September 2013, about 38% (39) of MoH health staff and 75% (244) of CHW targeted by the program have been trained on CMAM. The target population for the project is 2029 children from 6-59 months from which Save the Children estimates 15% will develop complications and will be admitted in the SC.

2. OBJECTIVES

2.1. GENERAL OBJECTIVE

The overall objective was to estimate the coverage of the CMAM program which targets 2029 SAM children (6-59 months) living in the Mopti health district during March to September 2013.

2.2. SPECIFIC OBJECTIVES

- Improving data collection, analysis and routine program monitoring data
- Enhance in country capacity to conduct SQUEAC investigations in the future
- Identify zones with high and low coverage and the reasons for this
- Identify barriers of accessibility that directly or indirectly affect coverage
- Set up recommendations for improving the quality of the Save the Children program

3. METHODOLOGY

3.1. GENERAL APPROACH

SQUEAC means Semi-Quantitative Evaluation of Access and Coverage. This method was developed by Valid International, FANTA, UNICEF, Concern Worldwide, World Vision International, Action Against Hunger, Tufts University and Brixton Health. It combines the review of routine program monitoring data, the collection of qualitative information and the results of small sample quantitative surveys to estimate the coverage achieved by the program. It also seeks to identify the keys issues affecting attendance and coverage. SQUEAC consists of a range of tools designed to investigate coverage and factors affecting it using flexible but accurate methods that relies on a diversity of analysis. This includes techniques such as Concept Mapping, Histogram of belief and BBQ weighted and un-weighted to present and develop findings.

The SQUEAC investigation is based on the principles of sampling to redundancy and triangulation of data by source and method. It means that the data is collected and will only be validated after cross verification by different sources and methods until no new information is obtained. The SQUEAC methods propose 2 stages:

- Stage 1: Identifies areas of low and high coverage and reasons for coverage failure using routine monitoring program data and other available quantitative and qualitative data
- Stage 2: Confirms the location of zones with low and high coverage and the reasons for coverage failure previously identified using small surveys or small studies

If necessary a Stage 3 may be performed in order to estimate the overall coverage of the program using a Bayesian technique.

3.2. STAGES

Before starting the SQUEAC investigation the fourteen in country health staff participating in the investigation received an explanation on the methodology to be used. As one of the specific objectives was to enhance in country capacity, the SQUEAC investigation was approached as an action learning process. All the steps were designed by the SQUEAC team, with the guidance of the two specialists (CMN technical advisor and SCUS nutrition specialist), followed by their implementation in the field.

Stage 1: Identification of health zones of low and high coverage

At the beginning of Stage 1, the team worked on six specific themes in order to draft the questions and data that needed to be gathered by the interviews. The six themes given to the teams were: aetiology of SAM, pathways to treatment, awareness of the program, perceptions/opinions of the program, case finding volunteer activity and knowledge/reasons for uncovered cases. The SQUEAC team has also identified the key informants to be interviewed and the types of interviews to be done. The teams received information on how to conduct an interview and how to use the interview guides appropriately, e.g. open-ended questions.

SOURCE – KEY INFORMANTS	CODES
Mothers of beneficiaries	1
Mothers from the community	2
Health staff	3
CHW	4
Village chiefs	5
Traditional healers	6

Table 2: Key informants interviewed and coding used for triangulation

At Stage 1, the teams investigated the heath zones through the interviews of key informants previously identified. The results of these interviews were analysed and triangulated after the fieldwork to produce a BBQ table that was used to adapt the next interview. During this stage the team also produced a Concept Map, a graphical analysis of the interrelationships between findings.

METHOD	CODES
Semi-structured Group interview	A
Semi-structured Individual interview	B
Observation	C
Group discussion	D

Table 3: Types of interviews performed and coding used for triangulation

Stage 2: Confirmation of health zones of low and high coverage: small area survey

Considering the results of the routine monitoring data and the new findings, the SQUEAC team chose four health zones most likely to have low and high coverage. A small area survey was the method chosen to test this hypothesis. Active and Adaptive case finding was carried out in the four health zones using the MUAC tape and the identification of nutritional oedema as measures to determine acute malnutrition in children from 6-59 months. The MUAC cut-off used was MUAC <115mm (Red) and MUAC ≥115 and <125mm (Yellow).

The technique of case finding and the notions of exhaustive, active and adaptive case finding were explained to the teams. Three main key informants where also identified for the small area survey: mothers of beneficiaries, village chief and traditional healers. The tools (tally sheet and questionnaire) were presented and their function was explained.

3.3. LIMITATIONS

One of the limitations of this investigation was the poor accessibility to health zones and, given this constraint, the time allocated to the SQUEAC investigation. For the next SQUEAC, the planning should consider the best time of the year to conduct this investigation and the time that it will take to reach these inaccessible places in order to logistically arrange the visits. Another limitation was the unavailability of data at field level. Reports and statistics need to be available from the beginning of the investigation in order to be analysed at the early stages of the SQUEAC. A written authorisation from MoH needs to be requested in advance to facilitate Save the Children presence in the field.

4. RESULTS

At the beginning of the SQUEAC, data from the project was collated and analysed. Not all of the data required for a full analysis was available. The SQUEAC team noted that not all the necessary data was being routinely collected by the project, therefore, important information for the SQUEAC was missing. This included data on follow up: range of MUAC on admissions, length of stay before defaulting and referrals by CHW admitted into the program. One of the statistics shared with UNICEF on a monthly basis showed the achievement (performance indicators) per health structure (OTP/SC). However, this information was not analysed individually as the project considered the indicators of the twelve health zones as a whole.

The available data was used to analyse trends on the core indicators by desegregating the different health zones. The SQUEAC team noted that even though the overall program indicators (mean of the twelve health zones) seem to maintain Sphere standards (Recovery >75%, Defaulter <15%, Death <10% and Non Respondent <15%), the health zones considered independently showed a very different picture, mainly on the recovery and defaulter rates. Defaulter and recovery rates were very different from one place to another, having very good indicators in some health zones and very poor in others. The Mopti team provided valuable information on the reason for this disparity.

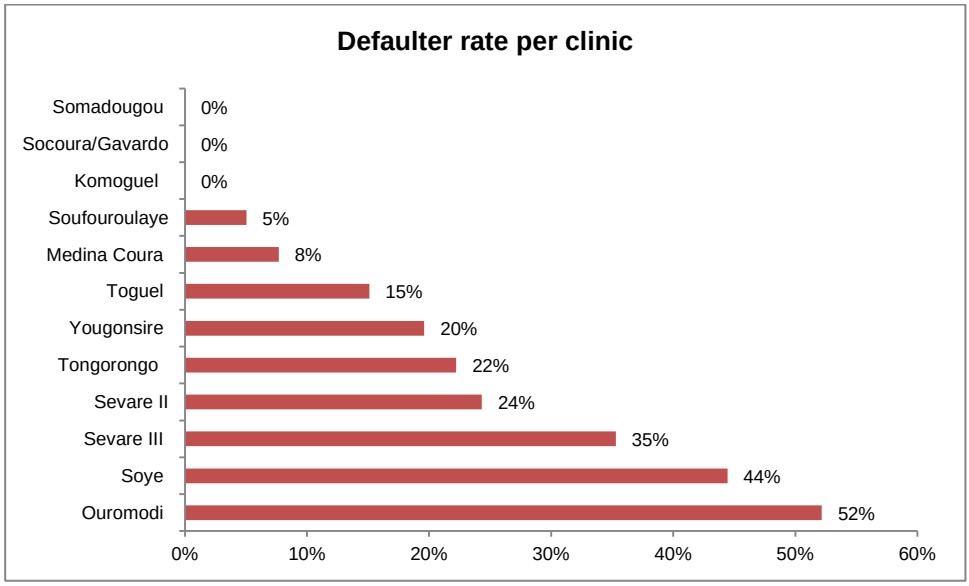


Chart 1: Defaulter rate from March to September 2013 (end of project December 2013)

Defaulter and recovery rates were very good in the health zones that were fully functional in March (Komoguel, Socoura and Somadougou). These three health zones were handed over to us by MSFB and since then, Save the Children has been directly supporting the program through the presence of permanent Save the Children staff. This seems to have made a big difference in terms of quality of care and has been identified as one of the boosters that influence coverage. Another reason that could also explain the 100% recovery rate is that Komoguel and Socoura are in the same geographical area as the two SCs supported by the project. Children have been referred as soon as they develop complications; therefore there has been less delay in intervention. The follow up of cases at community level were shown to be better too. These reasons may have helped to reduce defaulting as mothers could see the improvement on the nutritional condition of children.

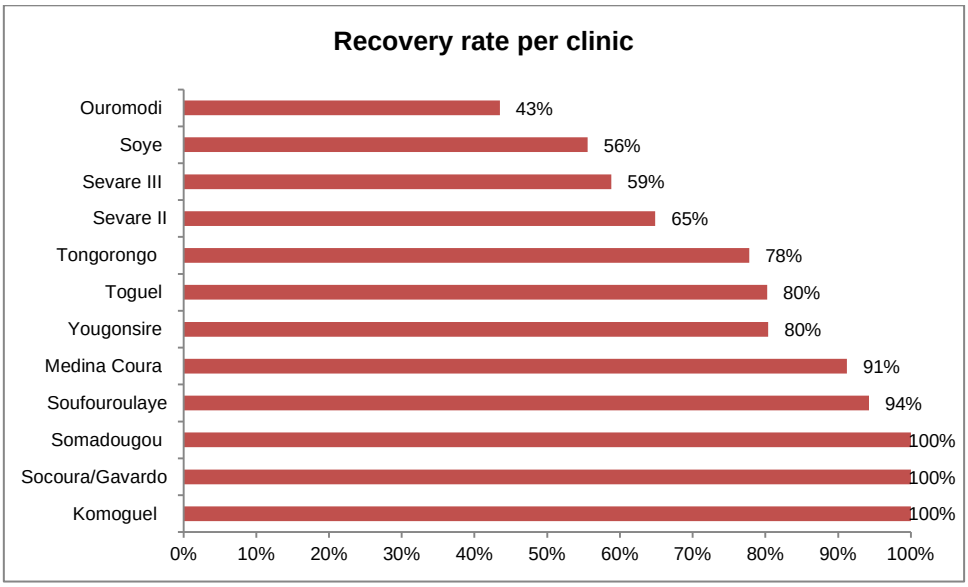


Chart 2: Recovery rate from March to September 2013 (end of project December 2013)

The results of data analysis also showed some health zones having higher and lower than expected admissions rates. As it happened with the defaulters and recovery rates, the admissions rates were also very different in the different sites of intervention. Some health zones have already surpassed the expectations and others have achieved a very poor progression in reaching the target set.

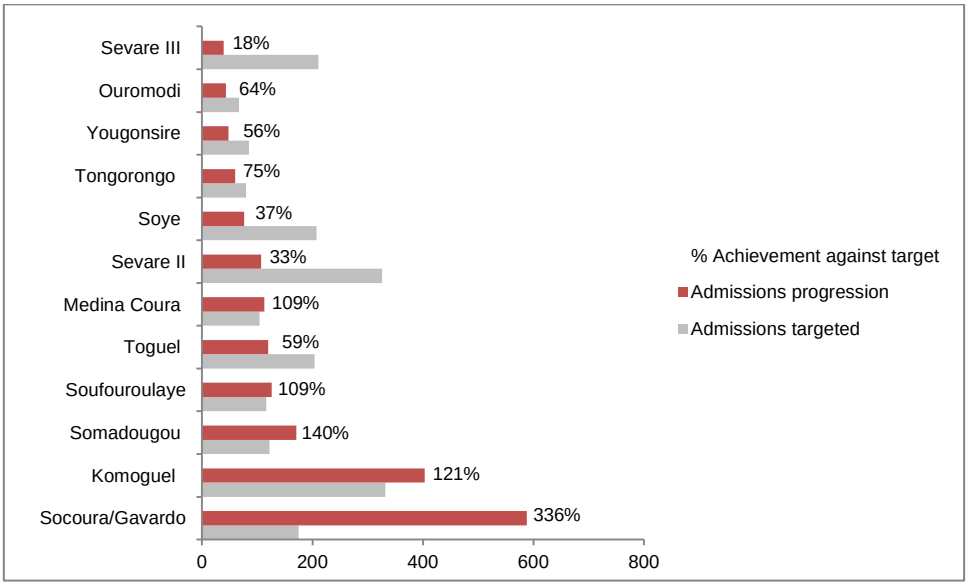


Chart 3: Progression of the admission against target from March to September 2013 (end of project December 2013)

In September, the target figure for the program as a whole has already been exceeded (117%). However, some urban health zones such as Toguel, Sevare II and Sevare III along with some rural health zones such as Soye and Yougonsire remained far from the target. Some semi urban health zones such as Socoura, Somadougou and Komoguel have shown an unexpected number of admissions compared to the target.

Quantitative and qualitative data collected during the investigation has shown that the health zones that exceeded the admissions targets were admitting children from other health zones. This is the case of Socoura which is admitting children from Sevare II and Sevare III but also children coming from other villages outside the catchment area of the program. This information has been gathered from the registration book in Socoura and Gavardo OTPs. The permanent presence of Save the Children staff, carrying out quality consultations, is one of the reasons for the high frequentation observed in Socoura health zone.

A target of 2029 admissions was set for the extension of the project and was met at six months; however the criteria of how this target was set is unclear. In analysing primary data in conjunction with the calendar of diseases/seasons made from the information provided by Mopti team, it was noted that any increases in admissions were related more to the implementation of activities than to a specific season of the year. This could be explained by the fact that there were no other partners implementing nutrition activities in Mopti at this period. Save the Children has expanded the nutritional activities from three health zones, originally taken over from MSFB, to twelve fully implemented CMAM interventions.

Floods and rains are a barrier to access in the health centres located behind the river or settlements in flood areas (Ouromodi, Soye, Yougonsire and Tongorongo). Except for Ouromodi, the rest of the health centres surrounded by water have started increasing admissions at the end of the rainy season (August-September). The end of the rainy season also coincides with the malaria peak and diarrhoea that are commonly seen during and at the end of the rainy season, this could also explain the increase in admissions registered at this period. Ouromodi is the furthest health zone and some villages are inaccessible by foot during floods, this represents a big challenge for community mobilisation and for nutrition surveillance. Understaffing and absentees of health staff have been observed in these four health zones.

Sevare II and Sevare III experienced a negative trend in August-September, most likely related to the increase on admissions in Socoura that currently admit children coming from Sevare. The decrease in admissions observed in June is normal after the peak of the previous month but it could have also been influenced by the start of rains that discourage mothers to seek care unless the is child very sick.

The almost flat trend observed in Komoguel and Medina-coura, two semi urban sites, indicates a stable number of admissions that seems to correspond to good coverage. Both sites have exceeded their target figure in September and they have showed very good indicators.

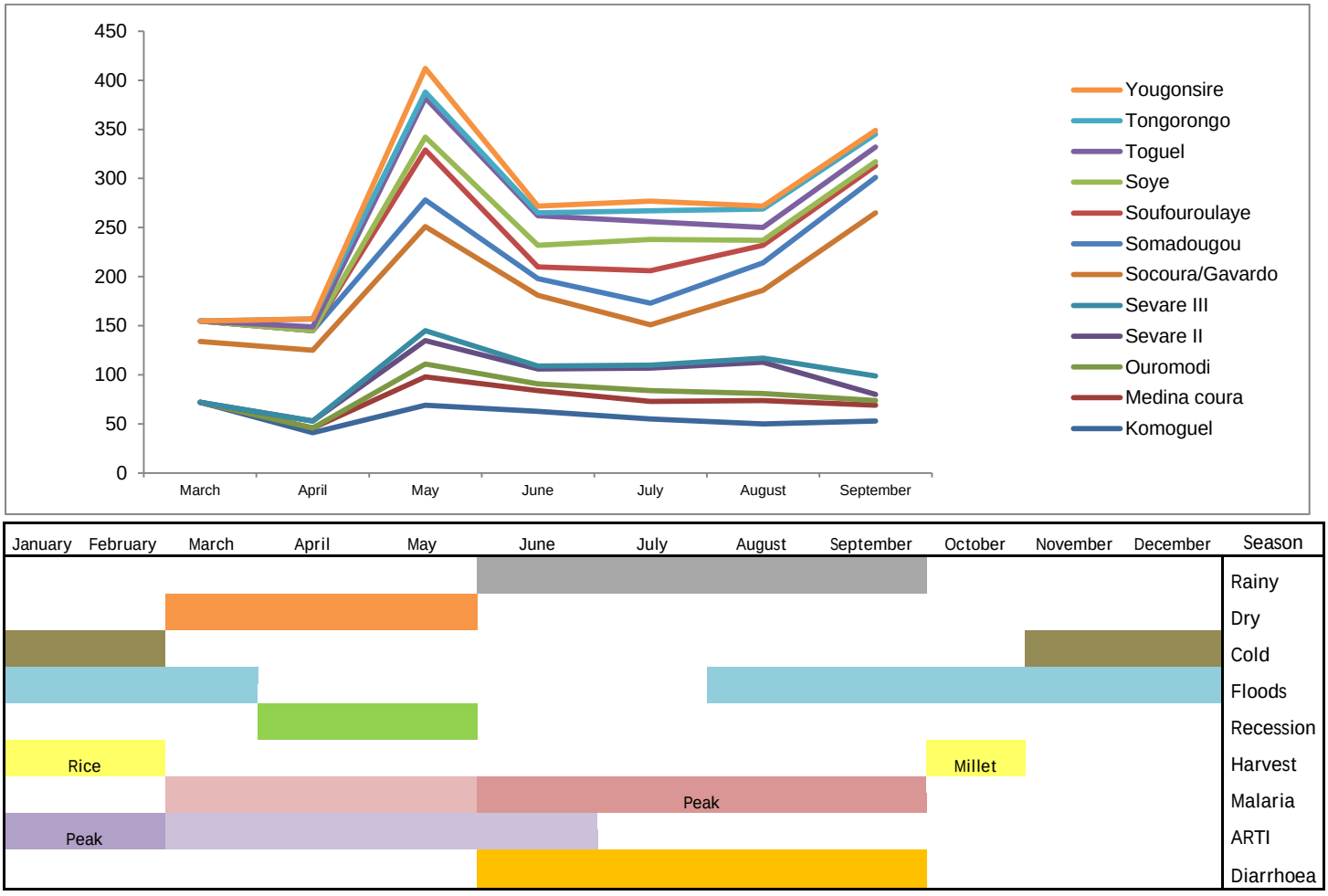


Chart 4: Number of admissions of the 12 health zones per months and parallel with seasonal calendar

4.1. STAGE 1

The data on admissions, defaulters and recovery rates along with the geographical location (furthest North, South, East and West) of some sites helped to determine the first sites to be investigated during the Stage 1 of the SQUEAC. The urban or rural status of the health zones was also taken into consideration for this purpose. Based on the knowledge of Mopti team and on the spatial distribution of the health zones previously located on a map, a total of eight health zones were chosen for starting the investigation. Within three days the teams visited the furthest and the nearest village accessible in the eight health zones that were chosen.

HEALTH ZONES	VILLAGES	DISTANCE IN KM TO HC	TEAM
Sevare III	Ouroguende Banguetaba	8km 0km	I
Socoura	Bahima Soucoura	14km 0km	II
Soufouroulaye	Diabi Soufourolaye	13km 0km	III
Tongorongo	Madina Tongorongo	1km 0km	I
Yougonsire	Dagabori Yougonsire	15km 0km	II
Ouromodi	Dakadigani Ouromodi	5km 0km	III
Toguel	Toguel Gangal	0km 0km	I
Somadougou	Kouna Somadougou	15km 0km	I

Table 4: Eight health zones and villages chosen during the Stage 1 of the SQUEAC

Six different key informants previously identified by the teams were interviewed at health centre and community level in the eight health zones investigated. Four different methods were used for data collection: semi structured individual and group interviews, observation and informal group discussion. An interview guide with open-ended questions was used to help the teams during the interviews. The results of the interviews were presented, discussed and analysed on the same day in a plenary. The results of this analysis were used to produce the BBQ.

The BBQ (Barriers-Boosters-Questions)

The findings of the interviews were classified as Barriers or Boosters and the new/adapted questions raised during this exercise, were built in for the next interview. Barriers and Boosters identified by the three teams were triangulated by different methods and different sources throughout the first stage of the SQUEAC. Triangulation was obtained by categorizing the Barriers and Boosters according to the type of source and method used to obtain them

Concept Map

A Concept Map was performed with the teams in order to better understand and visualize the links and interaction between the factors that influence coverage. As the high defaulter rate was identified as one of the major problems in the program, the word 'Defaulter' was used as the central theme for the Concept Map. The teams used the information triangulated in the BBQ and their own knowledge and experience to establish positive and negative links related to defaulters and affecting coverage. Identifying negative links was easier than identifying the

positives ones. The negative links were well known and easier to design on the map. Further analysis of both Boosters and Barriers and the Concept Map took place after the hypothesis for stage two was tested to inform recommendations (see below).

4.2. STAGE 2

The same three teams were kept to carry out Stage 2 of the SQUEAC. The results of the analysis from the reports and statistics available (low/high defaulter rate, low/high recovery rate and low/high admissions against target) and the qualitative data (active screening, proximity to the OTP and inaccessibility due to floods) resulted from the data collection carried out during Stage 1 of the investigation. Analysis of this data was used to determine the four health zones that would be investigated during Stage 2.

HEALTH ZONES	VILLAGES	DISTANCE IN KM TO HC	TEAM
Socoura	Doundou	5km	
	Socoura	0km	
	Diondori	1km	III and II
	Dainlongo	2km	
Somadougou	Kouna	15km	
	Somadougou	0km	III
Sevare III	Barbe ville	2km	
	Barbe plateau	4km	
	Ouroguende	8km	II
Ouromodi	Ouromodi	0km	
	Dakadigani	5km	I

Table 5: Four Health zones chosen for the case finding 'small area survey'

Findings from Stage 1 seemed to show differences in coverage between the twelve different zones of intervention. Based on the belief of having diverse coverage, a small area survey was chosen to test the hypothesis regarding the unequal spatial distribution of coverage.

HEALTH ZONES	HYPOTHESIS	DEFAULTER RATE	RECOVERY RATE	ADMISSIONS AGAINST TARGET
Socoura	High coverage	0%	100%	336%
Somadougou	High Coverage	0%	100%	140%
Sevare 3	Low Coverage	35%	59%	18%
Ouromodi	Low coverage	52%	43%	64%

Table 6: Health zones identified as areas of high and low coverage along with indicators

During the case finding, the team carried out an exhaustive search for cases within the communities. The key informants were questioned and followed to the households until the last children known for having malnutrition (disease/Baloko-dece) was verified. The teams also used pictures to help the case finding. Children having yellow or red MUAC and/or nutritional oedema were referred to the health facility as expected. Mothers of children referred having red MUAC or nutritional oedema were requested to complete a questionnaire if the child was not admitted in the nutritional program, in order to understand the reasons for this uncovered case. The results of the small area survey showed that from the fourteen uncovered SAM cases, five cases concerned mothers that did not know about the program: two from Sevare III and three from Ouromodi. The remaining nine cases gave the following explanations about why the children were not in the program:

- Mother did not know that the child was malnourished: two children coming from Socoura and Sevare III
- Mother was busy (work): two children coming from Socoura and Ouromodi. The last one has been a defaulter for the past three months
- The children was not admitted after have been referred: three cases from Ouromodi
- Relapses after two months: two children from Ouromodi

HEALTH ZONES	SAM CASES	COVERED	UNCOVERED
Socoura	3	1	2
Somadougou	3	3	0
Sevare 3	4	1	3
Ouromodi	10	1	9

Table 7: Results of case finding by health zone during the small area survey

The investigation tested the hypothesis that Socoura and Somadougou were health zones of high coverage while Ouromodi and Sevare III were health zones of low coverage. From the results of the case findings the certainty of this hypothesis was tested by referring to the Sphere standard of 50% recommended coverage for rural areas by using the following formula:

HEALTH ZONES	HYPOTHESIS	FORMULA (value=50%)	COVERED CASES Vs. FORMULA RESULTS	TEST RESULTS
Socoura	High coverage	3x50/100 = 1	1 is not greater than 1	Low coverage
Somadougou	High Coverage	3x50/100 = 1	3 is greater than 1	High coverage
Sevare III	Low Coverage	4x50/100 = 2	1 is not greater than 2	Low coverage
Ouromodi	Low coverage	10x50/100 = 5	1 is not greater than 5	Low coverage

Table 8: Results of testing the hypothesis health zones of high and low coverage

Except for Socoura, the other three health zones tested gave positive results in terms of expected coverage. According to the routine monitoring program data analysis and to the latest qualitative findings, Socoura was most likely to be a high coverage area. However, the case finding showed that this assumption was not totally correct. Socoura has two OTP (Socoura and Gavardo) and has admitted so far more than three times its expected target population (336%). As the two OTP share the same catchment area, the analysis of the primary data has considered the results of this two OTP together to avoid double counting.

Both OTP had 0% defaulters and 100% recovery rate but the admission numbers are different. From the 336% of admissions achieved against the target, 105% were achieved by Socoura OTP and 231% by Gavardo OTP. From the results of the quantitative and qualitative data, it was noted that Socoura health zone was admitting children coming from Sevare II and Sevare III. During the case finding, the statistics from Socoura and Gavardo were analysed. From the 588 admissions registered in these two OTPs, approximately 36% came from Sevare II and 12% from Sevare III. This explains somehow not only the wrongly assumption that the coverage was very high in Socoura health zone but also the fact that Sevare II and Sevare III had a very poor rate of admissions compared to the target, 24% and 35%, respectively.

Another reason that explains the assumption that Socoura health zone was a high coverage area was the fact that two OTPs were covering a catchment population that represents less than 9% of the total population of the health zones of intervention. Sevare II represents around 16%. The case finding showed that three cases were found having red MUAC/nutritional oedema from which two were not in the program. We need to consider that 26 MAM cases were also identified during the cases finding, most of these were recovering cases already admitted. Unfortunately the percentage of MAM (recovering) cases admitted in the OTP or SFP was not collected during the case finding. Even though the case finding showed that Socoura health zone was not as covered by the program as expected, the findings also showed that the coverage in Socoura was greater than the one in Ouromodi and Sevare III (low coverage) but lower than the one found in Somadougou (high coverage).

The accessibility of some sites has been also identified as an issue negatively influencing coverage and particularly the defaulter and recovery rates. Three out of the twelve health zones of intervention are surrounded by water for most of the second half of the year. During Stage 1 Ouromodi and Yougonsire were investigated by two different teams that stayed overnight in the health zones as the round trip by motor-boat was about 10 hours. During the case finding another team went to the Ouromodi to search for SAM cases and to test the hypothesis that Ouromodi was a low coverage zone.

Ouromodi, Soye and Yougonsire have shown poor performance indicators from the analysis of the routine program monitoring data. The three health zones are located behind the Niger River. Inaccessibility (distance, financial and floods) has been indicated as an important barrier by the different key informants as well as by the teams. Despite this, the three health zones also share other difficulties that affect coverage: lack of human resources, poor community mobilisation and limited number of staff supervisions which could play a major role in the performance of the three OTPs. Ouromodi has the worst indicators of the program. In addition to the explanations given above, namely the inaccessibility, this OTP was also admitting children from villages out of the catchment area that quickly defaulted as the mothers found it difficult to attend the weekly consultations.

Save the Children is also supporting two SCs (Gavardo and CSREF) in Mopti. These two SC have shown different admissions rates although they are only 5 km apart. One possible reason that explains that the CSREF SC has more admissions is that it has been fully managed by Save the Children staff since they were taken over from MSFB (March 2013). Another reason is that Gavardo SC has a small capacity (six beds).

The poor admissions rate in Sevare II and Sevare III is most likely linked to the fact that part of the population of this health zone goes to Gavardo and Socoura OTPs instead. Gavardo and Socoura OTPs are run by Save the Children staff since they were taken over from MSFB. These two OTPs are seen to be reliable as staffs are based there permanently, unlike Sevare II and Sevare III that have been reported as having human resources issues. The SQUEAC has showed that dissatisfaction of OTP care and lack of human resources are two strong barriers that could affect coverage by directly affecting attendance. Due to its proximity, Socoura being very close to Sevare, the distance will not represent an issue that could explain that children from Sevare are admitted in Socoura. Sevare has a mobile population (commerce and IDP). The only IDP camp is located in Sevare. Unfortunately, the current population remaining in the camp is not available, though unofficial sources seems to think that the IDP camp is almost empty as most of people have returned to their homes after an improvement in the security situation in Mopti.

This mobility directly affects the defaulter rate and could explain the high and constant number of defaulters, in an urban zone, which are difficult to trace as people have moved back to their place of origin. Sevare II and Sevare III are relatively new OTPs compared to Socoura and Gavardo OTPs which were handed over to Save the Children being totally functional. Sevare II and Sevare III were considered functional in April and May, respectively.

4.3. SCORING OF CONCEPT MAPS AND BBQ

To assist in the development of recommendations for future program development both the concept maps and BBQ were score and weighted by the investigation teams using not only data collected in stage one but also their knowledge of the program.

Concept Maps

TEAM	POSITIVES	NEGATIVES
Team I	6	16
Team II	8	17
Total	14	33

Table 9: Number of positives and negatives links influencing coverage identified by two teams in the Concept Map

BBQ weighted and un-weighted

BBQ weighted, each Barrier and Booster was discussed by the whole team in order to determine its impact on the coverage. A scale from 1 to 5 representing respectively a low and a high impact on the coverage was used to carry out this exercise. Barriers such as distance and inaccessibility created a discussion within the team as the notion of "distance" or "accessible" was different from one person to another. Each member of team defended their argument by given examples that they gathered during the interviews. Indeed, distance was difficult to categorize as, for some mothers, a couple of kilometres were classified as far and other mothers mentioned they were ready to walk long distances if the child was sick. We need to consider that even a short distance (1-2km) is difficult to manage when the road is under floodwater. The Barriers weighted by the SQUEAC team was 56 and the Boosters 39.The BBQ un-weighted was tallied finding a total of 22 Barriers and 11 Boosters.

BARRIERS	1-5	1-5	BOOSTERS
Distance to the health centres	3	5	Hygiene kits at discharge from OTP
Stigmatisation of malnutrition	1	4	Involvement of village chiefs
Sharing RUTF	2	3	Ownership activity by the CHW
Inadequate monitoring by CHW	4	3	CHW active
Dissatisfaction of the care in OTP	1	3	Awareness of the disease / malnutrition
Ignorance about diseases / malnutrition	3	4	Awareness of the program
Lack of motivation of CHW	4	5	Satisfaction of the care
Influence of traditional healers	3	4	Master the calendar of diseases
Authorization from head of household to go OTP	1	3	Health staff monitor CHW activities
Awareness of the program	2	4	Availability of anthropometric equipment
Lack of human resources at OTP level	3	1	Autonomy of mothers to decide on child's care
Stock outs	1		
Lack of community mobilisation	4		
Long wait before consultation	1		
Absence of CHW within the community	2		
Agricultural work	3		
Financial inaccessibility	4		
Influence of grandmother	1		
Lack of cooperation of the village chief	2		
Inaccessibility during rainy season	4		
Negligence of mothers	3		
Nomadism	4		
Weighted	**56**	**39**	
Un-weighted	**22**	**11**	

Table 10: Barriers and Boosters weighted by ranking them from 1-5 (low – high impact)

5. DISCUSSION

It is important to highlight that the Mopti project was the first emergency nutrition project focused on the management of SAM implemented in a zone where conflict was still latent. This new project faced contextual constraints that were not known from the beginning and that had been inherited from MSFB, a strategy that was not completely implemented. Save the Children emergency nutrition activities in Mali are relatively new and someway from fulfilling it's strategy.

MUAC tapes were only distributed to CHWs and OTP/SC in August due to UNICEF logistical constraints. The screening carried out before this date used the few MUAC tapes available in the OTPs. Data collection on screening only reported the global number of children screened and the cases found with yellow and/or red MUAC. Unfortunately, this did not provide any information on the number of children being admitted after referral from the CHWs. Some CHWs do not practice active screening, the screening only taking place when Save the Children supervisors organise screening activities.

Ouromodi, Soye and Yougonsire are health zones that are very difficult to access. These three health zones are located behind the river and are affected by the floods part of the year, the only access is by boat or Pirogue. As the supervisions have been a big challenge for the Mopti team, three staff were deployed behind the river for 2-3 months (during May-August) to ensure supervisions took place. Unfortunately, for security reasons, this activity has been stopped as of last August. The follow up to these health zones has been a challenge.

The data and reports used as routine monitoring tools did not facilitate a proper analysis of the nutritional situation. The reporting systems need to be reviewed in order to obtain a better picture of what is happening at each health zone. The implementation of the MRP and the new template proposed by the nutrition advisor will allow a better follow up on activities.

During the interviews the teams faced some difficulties. At Tongorongo an interethnic conflict occurred in one village although the teams were not affected, this shows that even if the security has improved in Mopti, some latent issues can scale up quickly.

Stigmatisation was an important barrier mostly highlighted in the urban and semi urban health zones. The word in Bambara 'Baloko-dece', meaning malnourished children, is perceived as pejorative by mothers so they did not like to use it. Connotation of this word is perceived as strongly negative as it means that the child did not have anything to eat and that is sick for not receiving enough food. The investigation revealed that mothers, CHWs, village chiefs and even some health staff, only make the link between malnutrition and insufficient food. The raising of the awareness about malnutrition will need to be considered during the sensitization in order to empower mothers to take informed decisions on the health of children and to reduce stigmatization.

The lack of awareness of the village chief has been also perceived as a barrier. In Toguel for instance, the village chief was relatively new (one year of mandate) and little involved in the nutrition activities done at community and health centre level. He was not aware of the presence of Save the Children although he knew that the CHWs were doing some nutrition and health sensitization activities. This will need to be addressed in order to increase awareness about the program as the village chief has a large influence within the community.

The inconsistency of the SFP is also an issue for the continuity of care after the OTP. Socoura is an example where the SFP did not work in a consistent manner. The lack of continuity in the management of malnutrition directly affects the nutritional status of children who could relapse but also negatively impacts the opinion of the mothers about the program.

The results achieved during Stage 1 and Stage 2 confirmed that the coverage was different from one health zone to another. This investigation has helped to understand how barriers influence access and coverage, and will facilitate the decision-making process in order to propose informed and adapted solutions to mitigate the negative impact of these barriers.

6. RECOMMENDATIONS

Mopti program has been facing several challenges related to the local situation (floods, latent conflicts, poor health system, etc.) but also in its current limitations (poor community mobilisation, lack of awareness of malnutrition, understaffing in OTP/SC, etc.). Challenges are different from one health zone to another. Hence the importance of analysing data per health zone as mitigation measures should be adapted to each context. The barriers identified during this investigation are well known by the Mopti team; therefore, this would help to develop new strategies for reducing their negative impact. The program is relatively new, consequently there is a need to consolidate the achievements for the sake of sustainability.

Improving defaulter and recovery rates

Some rural and urban health zones have been facing big challenges concerning these two performance indicators. In rural areas, the main barrier to access care is inaccessibility, mostly in areas where floods are recurrent. The supervision of these health zones needs to be revaluated in order to adapt the measures to the current context. In urban settings, the problem of defaulters is related to poor community mobilisation. In both cases, screening, sensitization and follow-up of SAM cases should be prioritized. Sphere standards help to keep track on the global performance of the program but the analysis of these core indicators should be systematically done per health zone and on a monthly basis in order to put in place timely corrective measures. As high defaulter rate is one of the biggest challenges of inaccessible

OTPs, seasonal strategies should be considered: giving the ration of RUTF for 2-3 weeks, Save the Children team stays overnight twice a month, CHWs closely monitors SAM absentees, etc.

Improving reporting and data analysis

Reporting and analysis of routine monitoring data needs to be performed regularly in order to improve the follow-up of the activities and to adapt the interventions to need. Monthly and quarterly reports produced by technical staff should analyse performance indicators of each OTP/SC individually. The monitoring tools should inform on the individual and overall progression against the target. The MRP recently implemented should be appropriately managed in order to improve data analysis and undergo timely corrective actions when needed. The MEAL officer should be involved in this activity.

Using range of MUAC on admissions

MUAC on admissions informs about early treatment seeking behaviour, screening in the community, timely recognition of SAM and awareness of the program. This information could be easily obtained from the registration book or from the patient's card at OTP level. Early admissions lead to short ALS; this can reduce the risk of defaulting.

Reducing Average Length of Stay

In a context of high defaulter rates, information about ALS seems crucial. A long length of stay in the program is known as being a factor discouraging mothers to attend the OTP, thus increasing the risk of defaulting. A long length of stay also affects other indicators such as AWG, recovery rate and increases the risk of death as the child remains malnourished for a longer period. This information could be collected from the patient's card. Data to inform this indicator is required by the MRP.

Raising awareness on the program

Visibility is important in terms of security but also for raising awareness about the activities of the program. In rural but also in urban areas, some mothers did not know that malnutrition was treated in the OTP. During the small area survey it has been seen that from the fourteen uncovered cases, five did not know about the program. These five cases were located not only in rural (Ouromodi) but also in urban (Sevare) areas. This is an example on how lack of awareness about the program directly affects coverage. Some measures should be considered: Intensifying sensitization by CHWs, radio messages to promote health centres and free treatment of SAM, regular meetings with village chiefs and community leaders, etc.

Raising awareness on malnutrition

Good awareness of malnutrition has been identified as a booster to coverage. Mothers, who classified malnutrition as a disease that was not only triggered by the lack of food but also by the presence of infections, were most likely to seek care. Community sensitization, group

discussions but also sensitization at health centre level (ANC, EPI, FP, etc.) would help to increase the knowledge of mothers in order to prevent and recognise the signs of malnutrition.

Improving community mobilisation

Community mobilisation needs to be reinforced as it plays a major role in the management of SAM cases. Screening should be active. It has been observed that some CHWs did not do active screening. The screening is only done when Save the Children staff organises mass screening. All children matching referral criteria should be sent to the health structure for further assessment. This needs to be carefully explained to the CHWs as mothers could be easily discouraged if the child is not admitted after being referred by the CHW. Sensitization is an important task but not always performed well. When conducting sensitization CHWs need to emphasize causes of malnutrition. IYCF messages need to be reinforced by the CHWs focusing on exclusive breastfeeding up to six months and diversification of nutritious food, while continuing breastfeeding after six months. It is important to increase awareness of mothers and to reduce stigma, two points that have been perceived as barriers during the SQUEAC investigation. It was observed that malnutrition is easily linked to a lack of food but not often to the presence of diseases, therefore sensitization should address this. Follow-up of SAM cases and absentees needs to be reinforced. It is known that the motivation of CHWs is difficult to address. Nevertheless, as good community mobilisation directly influences coverage, Save the Children needs to focus on reinforcing community mobilisation. Save the Children should advocate with health authorities in order to encourage regular meetings between CHWs and the health centre responsible which has ultimate responsibility for monitoring the activities of the CHWs.

Reducing stock outs

All stock outs should be recorded and reported. UNICEF directly supplies the health centres according to their orders and caseload. Ruptures in Mopti happen at two levels: UNICEF level and health centre level. To reduce the stock outs at health centre level Save the Children should reinforce the stock management (alert stock, stock cards well recorded, early order, forecast of needs, etc.) during supervisions. Stock outs are a big issue that should not be underestimated as it has been identified as a barrier of coverage. Stock outs imply that SAM children cut the treatment off involuntarily. This has a negative impact on nutritional status of admitted children. Nutrition Clusters are a good opportunity to discuss with UNICEF about stock outs and to advocate towards all concerned people.

Training health staff

This is a necessity as MoH is directly managing SAM cases. Not only formal training, but also on the job training, coaching and supervision training need to be reinforced in order to improve the quality of care. CMAM needs to be fully integrated in the routine activities of MoH. Save the Children staff should also receive frequent training. Training of all MoH staff targeted by the program needs to be carried out as soon as possible in order to improve the management of SAM cases with respect to the national nutrition guidelines. Training on anthropometric

measurements needs to be regularly refreshed. It is important to give specific support to staff working in the SCs as the medical condition of children hospitalized needs to be addressed carefully.

Using the seasonal calendar

It would not only be beneficial to compare the admission trends to the seasonal calendar over a period of twelve or eighteen months, but also to have a better understanding of the factors interfering with the coverage over time. This would allow a further examination of defaulter rates. Religious calendars should also be included.

ANNEX 1: CHRONOGRAM

DAYS	ACTIVITIES
28 October	• Organization of teams • Explanation of the methodology (SQUEAC) • Analysis of quantitative data available • Preparation of questions for the interviews • Identification of key informants • Identification of health zones to investigate
29 October	• MoH intervention • Presentation of the methodology to MoH • Starting the field Investigation: Sevare III, Socoura and Soufouroulaye
30 October	• Feedback from the field • Analysis of the qualitative data collected • Starting BBQ and triangulation • Adapting questions to the findings
31 October-1 November	• Field visits: interviews • Tongorongo, Yougonsire, Ouromodi, Toguel and Somadougou • BBQ triangulation after field visits
2 November	• Histogram of belief • Concept mapping • Identification of low and high coverage areas • Coaching about case finding
4-6 November	• Case finding: Socoura, Somadougou, Ouromodi and Sevare III • Discussion after the field visit
7 November	• BBQ weighted and un-weighted • Scoring the Concept Map • Review of main findings
8 November	• Review of findings • Estimation of coverage

ANNEX 2: INVESTIGATION TEAM

- PATRICK SHABANI, NUTRITION ADVISOR BAMAKO
- KASSAMBARA OUMAR, MEAL OFFICER BAMAKO
- FRANCIS DJIMTESSEM, PROGRAM MANAGER MOPTI
- ISSIAKA ALHAMZIETOU
- TENE COULIBALY
- YOUSSOUFOU KONATE
- MARIAMA BALLO
- SIDI-ELBAKAYE
- ADAMA DIARRA
- ISSA TRAORE
- ALOU BADARA TRAORE
- KALOGA BASSARY
- OULD TALEB
- JUDITH KATOUDI
- SIDEYE ABDOULAYE
- CISSE MAMADOU

ANNEX 3: QUESTIONNAIRE OF CASE FINDING

Questionnaire pour les parents des enfants (les cas MAS) PAS dans le programme

Région: _____ Aire de Santé: _____ Village : _____

Nom de l'enfant: _____

1A. DE QUELLE MALADIE SOUFFRE VOTRE ENFANT? _____

1. EST-CE QUE VOUS PENSEZ QUE VOTRE ENFANT EST MALNUTRI?

☐ OUI ☐ NON

2. EST-CE QUE VOUS CONNAISSEZ UN PROGRAMME QUI PEUT AIDER LES ENFANTS MALNUTRIS?

OUI ↘ NON (➡**STOP!**)

☐ ☐

Si oui, quel est le **nom du programme**? _____

3. POURQUOI N'AVEZ VOUS PAS AMENÉ VOTRE ENFANT EN CONSULTATION AUPRÈS DE CE PROGRAMME?

Trop loin ➡Quelle distance à parcourir à pied? _____ Combien d'heures? _____

☐

☐ Je n'ai pas de temps/trop occupé(e)

➡ Spécifier l'activité qui occupe la mère/gardien dans cette période _____

☐ La mère est malade

☐ La mère ne peut pas voyager avec plus d'un enfant

☐ La mère a honte d'atteindre le programme

☐ Problèmes de sécurité

☐ Personne d'autre dans la famille qui pourrait s'occuper des autres enfants

☐ La quantité d'ATPE donnée est trop petite pour justifier le déplacement

☐ L'enfant a été rejeté auparavant ➡ **Quand?** (période approximative) _____

☐ L'enfant d'autres personnes a été rejeté

☐ L'enfant est actuellement dans le programme UNS

☐ Mon mari a refusé

☐ Je croyais qu'il fallait être admis à l'hôpital en premier

☐ Le parent ne croit pas que le programme peut aider l'enfant (elle/il préfère la médecine traditionnelle, etc.)

☐ Autres raisons: _____

4. EST-CE QUE L'ENFANT A DÉJÀ ÉTÉ ADMIS DANS LE PROGRAMME URENAS?

☐ OUI ☐ NON (➡ **STOP!)**

Si oui, pourquoi n'est-il plus inscrit présentement?

☐ Abandon, quand? _____ **Pourquoi?** _____

☐ Guéris et déchargé du programme ➡ **Quand?** _____

☐ Déchargé car pas de guérison ➡ **Quand?** _____

☐ Autres:_____

(Remercier le parent)